Claims

[c1]   An image processing system including:

a number-of-color detecting means which inputs image data representing information of each of pixels resolved in a dot matrix form from an image and which regards information corresponding to the luminance of each pixel as color and detects the number of colors used; and

an image discriminating means for judging the type of image on the basis of the detected number of colors.

[c2]   An image processing system according to claim 1, wherein, when said image data is represented by plural component values corresponding to luminance, said number-of-color detecting means determines the luminance by a weighting integration of said component values.

[c3]   An image processing system according to claim 1, wherein said number-of-color detecting means samples pixels almost uniformly from among all the pixels and detects the number of colors on the basis of the image data of each of the sampled pixels.

[c4]   An image processing system according to claim 1, further including:

a pre-gray level transformation means having a table which includes calorimetric gradation data in a color specification space after transformation associated with lattice points in a color specification space before transformation, said pre-gray level transformation means performs a gray level transformation of calorimetric gradation data before transformation into calorimetric gradation data corresponding to lattice points of said table, then refers to said table, reads the corresponding calorimetric gradation data and makes a color transformation thereof;

an interpolating color transformation means using a cache and capable of making a color transformation into the corresponding calorimetric gradation data by an interpolating operation between lattice points on said table, said interpolating color transformation means having a storage area capable of reading in and storing information of said color transformation at a high speed, and said interpolating color transformation means causing the color transformation to be performed by an interpolating operation when said information is not stored in said storage area; and

a color transformation selection control means which causes the color transformation to be performed using

said pre-gray level transformation means when the image data is of a natural picture using a large number of colors and which causes the color transformation to be performed using said interpolating color transformation means when the number of colors which the image data uses is small and the image data is not of a natural picture.

[c5] An image processing system according to claim 1, further including:

a natural picture discriminating means which judges the image data to be of a natural picture when the number of colors detected is not less than a predetermined number; and

an edge highlighting means which, when the image data has been judged to be of a natural picture by said natural picture discriminating means, determines a low frequency component on the basis of a surrounding pixel distribution for each pixel as a constituent of the image data and diminishes said low frequency component, thereby eventually enhancing the edge degree of each pixel.

[c6] An image processing method for applying a predetermined image processing to image data which represents information of each of pixels resolved in a dot matrix form from an image, said method comprising:

inputting said image data, regarding information corresponding to the luminance of each pixel as color, detecting the number of colors used, and judging the type of image on the basis of the detected number of colors.

[c7]   A medium having an image processing control program recorded thereon for inputting in a computer image data which represents information of each of pixels resolved in a dot matrix form from an image and for performing a predetermined image processing, said image processing control program comprising the steps of: inputting the image data, regarding information corresponding to the luminance of each pixel as color, and detecting the number of colors; and

judging the type of image on the basis of the detected number of colors.